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MAINSTREAM AND ALTERNATIVE SOURCES OF FINANCE IN DUTCH AGRICULTURE

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ABSTRACT

In this paper mainstream and alternative sources of finance in Dutch agriculture is analysed. Dutch farmers make use of different sources of finance whereby bank loans continue to serve as the major source of debt financing. The average bank loan was approximately 740,000 euro per farm in 2015 while equity amounted 1.8 million euro per farm. Traditional family loans amounted about 60,000 euro per farm. Recent developments in, and examples of, alternative sources of finance indicate that the diversity will increase in the future, whereby various forms of financing will be used simultaneously. This can also be of interest for mainstream banks since their funding capacity is becoming more restricted as they are required to retain more capital to comply with the Basel Accords. The prospects for crowdfunding in agriculture are promising for projects relating to sales in niche markets. The relative low return on equity in agriculture indicates that private equity or venture capital is often not a viable option.

Keywords: Finance; credit; debt; agriculture; crowdfunding.

1. Introduction

Agriculture has traditionally made use of bank loans as its primary source of external financing (Van der Meulen and Van Asseldonk, 2014). However, a number of developments and trends will affect financing needs and sources of finance in the coming years. Demand for financing needs relate to, for example, farm expansion, investments in sustainability and innovation, integration of holdings in the value chain and the establishment of subsidiaries outside the Netherlands. Developments have also taken place on the credit provider side. The economic crisis that began in 2008 has resulted in banks becoming more cautious in their provision of credit. Banks will also be less generous in the coming years, following the introduction of more stringent bank capital requirements as laid down in Basel Accord III. Banks must now hold more capital and more liquid funds (Berkhout et al., 2014).

The aforementioned developments on both the demand and supply side of the credit market have complicated the financing of agricultural and horticultural holdings. This has in turn resulted in increasing attention for alternative sources of financing. The question is then which options are available to agricultural and horticultural entrepreneurs?, to what extent do alternative forms of financing supplement bank loans?, and could they ultimately replace bank loans? In the current paper we analyse credit supply and demand at farm level and sector level in Dutch agriculture to address the questions raised.

2. Method

2.1 Farm financing

Agriculture makes use of a variety of forms of mainstream and alternative financing. In this paper with mainstream finance we refer to owners' equity, bank loans and family loans. Alternative sources of finance are credit unions, private equity investment, Agricultural Loan Guarantee Funds and crowdfunding. Mainstream financing is available mainly for farm expansion and to finance farm succession (Berkhout et al., 2013). Banks therefore assess investment plans in terms of cash flows, solvency rates and the entrepreneur's track record and entrepreneurship.

The contribution of alternative financing instruments is largely dependent on the phase of innovation in which the investment is made (Figure 1). In the initial idea / making plans phase, entrepreneurs are largely dependent on their equity and family

loans. During the transitional phase from idea to the development of a prototype / pilot entrepreneurs can call on crowdfunding.

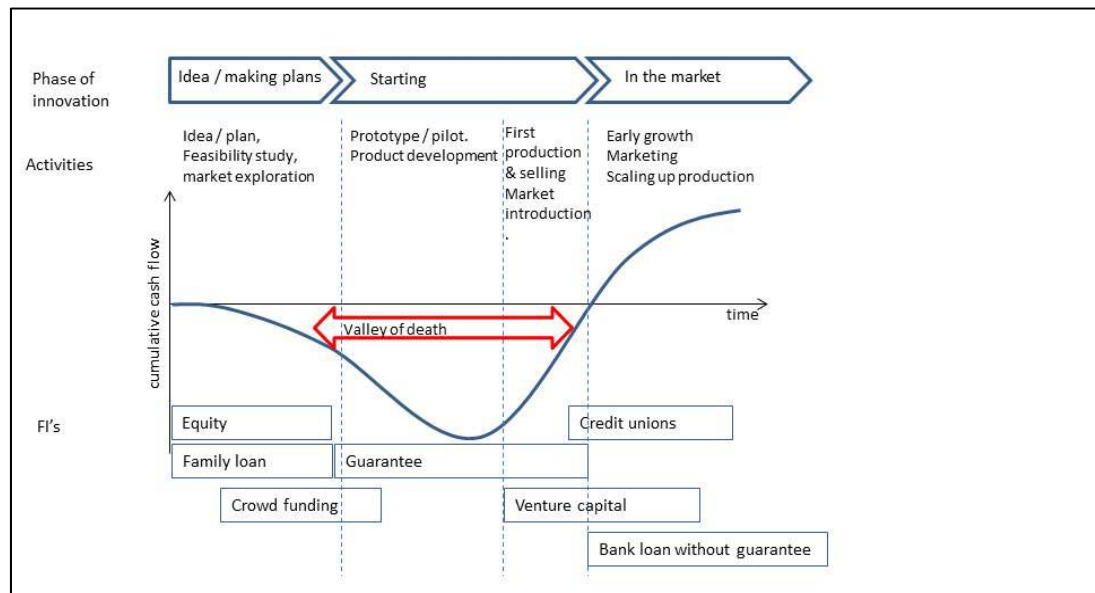


Figure 1 Phase of innovation and sources of financial instruments (FI's)

Source: Adjusted from (Van der Meulen et al., 2014).

A government guarantee during the starting phase can help entrepreneurs surviving the valley of death. The financial risks are particularly large during the scale-up phase from the first prototypes to market introduction. For this reason, banks are not prepared to provide financing, or at most insufficient financing, which confronts farmers with funding problems. After a favourable market introduction, which results in a vigorous growth in cash flow, entrepreneurs may need venture capital or make use of credit unions. Both forms of credits are highly compatible with bank loans.

2.2 Data analysis

For obtaining insight into sources of finance on Dutch farms we used the Dutch Farm Accountancy Data Network (FADN). The Dutch FADN sample includes about 1,500 commercial agricultural and horticultural farms. These farms represent 99% of total national production capacity. The farm level analysis was based on time-series of balance sheets (assets, liabilities and equity) and profitability (measured in return on equity) since both are a prerequisite for access to credit. Besides averages also the 20% and 80% percentile values are provided to explore heterogeneity among

farms. The main sectors were included in the farm level analysis (i.e., arable, horticulture under glass, dairy and pig farming). Sector level analysis is based on time-series stemming from mainstream banks and the Ministry of Economic Affairs, complemented with other public available sources providing quantitative data on crowdfunding and credit unions.

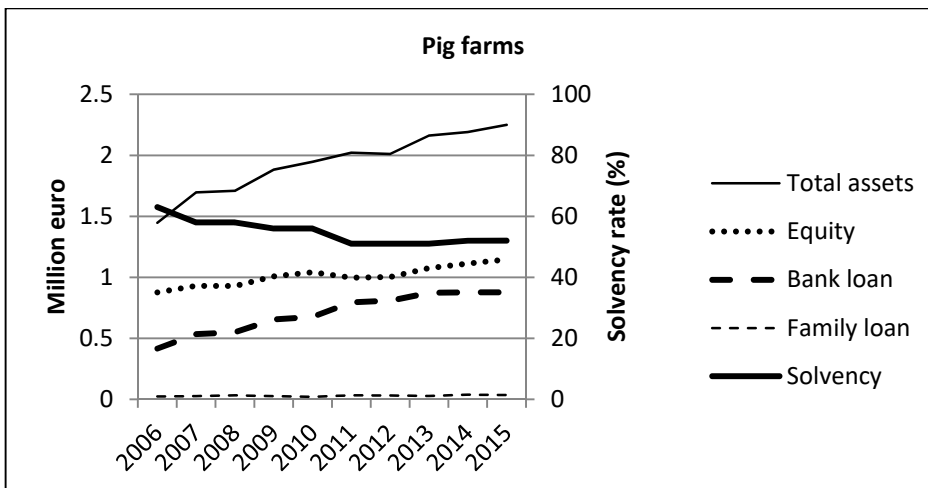
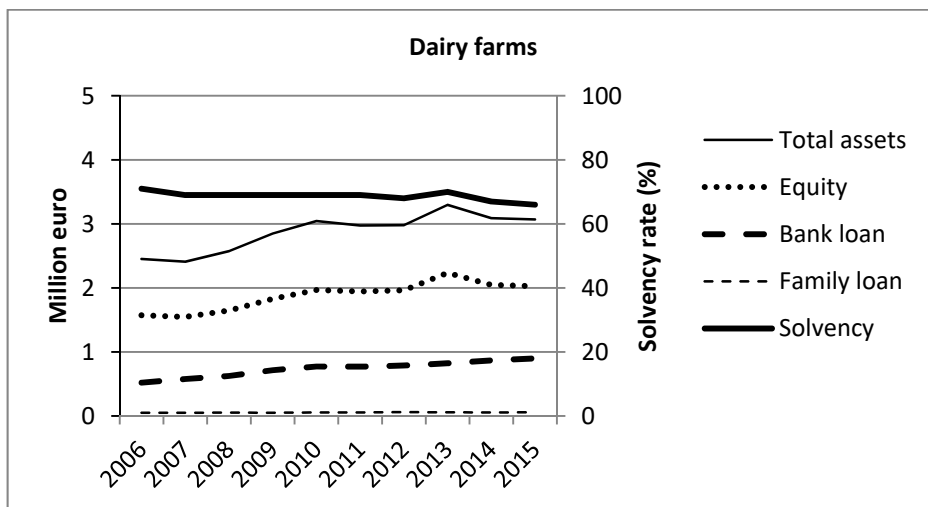
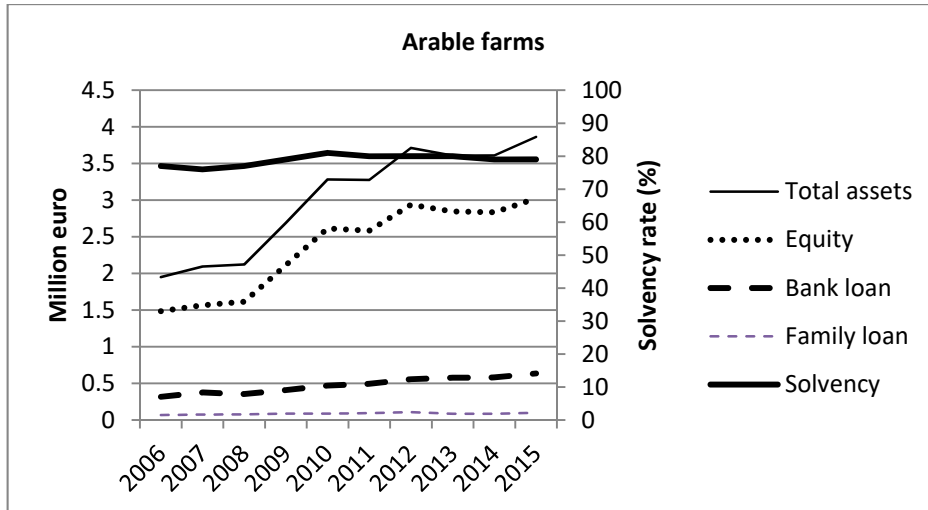
3. Results

3.1 Farm level analysis

The average amount of assets on Dutch agricultural and horticultural holdings increased from 1.9 million euro in 2006 to 2.8 million euro in 2015, primarily due to increased holding size and increased land prices. Both the balance sheet totals and how assets are financed varies greatly between holdings and sectors. About two thirds of the balance sheet total is financed with equity capital. On average, land based holdings (i.e. arable and dairy sector) employ more equity capital than non-land based holdings (i.e. pig and greenhouse sector). Arable farms have the highest balance sheet total, averaging 3.9 million euro per holding (Figure 2).

Bank loans continue to serve as the major source of external capital for Dutch agricultural and horticultural holdings, and increased by more than 80% in the past ten years. The long-term debt of an average agricultural and horticultural holding amounted 820,000 euro in 2015, of which almost 740,000 euro stemmed from banks. The average cost of borrowing from banks in 2015 was 29,000 euro per farm, which correspond to an interest rate of approximately 4%. Between sector analyses revealed that the average bank loan size was highest in horticulture. Yet the average bank loan in horticulture has declined since 2010 to 1.5 million euro in 2015. Due to good financial results in the last two years the solvency rate increased with 12% points to 45%. It is important, from a risk management perspective, for holdings to possess an adequate financial buffer to absorb fluctuations in income (i.e., risk bearing capital).

Family loans have been traditionally supplemented financing from bank loans and equity. In 2015, about 60,000 euro, equivalent to an average of 7% of the long-term equity, was accounted for by family loans. Although the absolute amount is increasing slightly each year, the percentage is tending to decrease due to more rapid growth in bank loans.



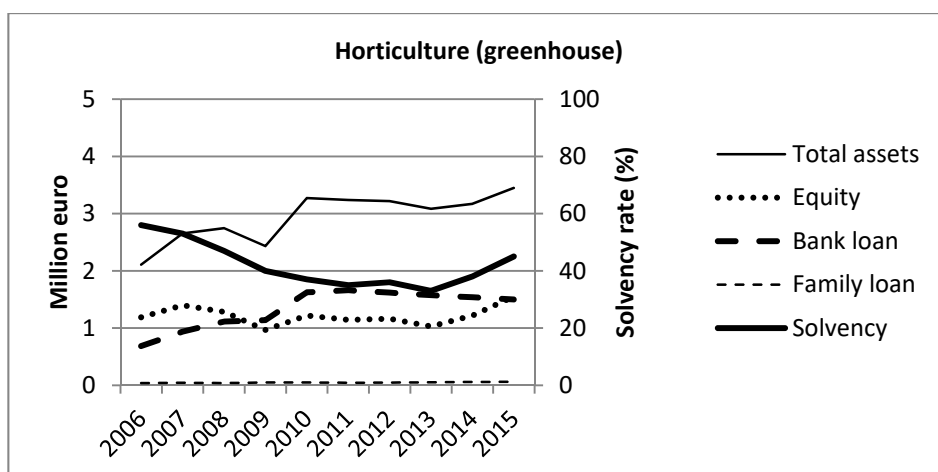


Figure 2 Balance sheet (total assets, equity, bank loans, and family loans) and solvency for different farm types (2006-2015)

Source: Farm Accountancy Data Network, Wageningen Economic Research.

Profitability is a prerequisite for access to credit. Returns to assets and returns to equity are two important measures of profitability. We use the return to equity approach because it is consistent with the smaller scale, non-corporate structure of most farm business (Barry et al., 2000). Return on equity can either account for calculated cost of own labour and appreciation in land value or not (Van der Meulen, 2009). In the Dutch context the return on equity is often calculated by totalling the income from the holding and the increase in land value, deducting the calculated cost of own labour on the basis of collective labour agreement wage levels, divided by equity (see also Van der Meulen, 2009; Backus et al., 2011). Between 2011 and 2015, the average return on equity of the total agricultural and horticultural sector was approximately 2% (Figure 3). In the case we exclude the appreciation in land value, the average return on equity was approximately -1%. Figure 3 reveals substantial difference in average profitability between sectors. Horticultural holdings record the highest values, of an average of 8.2% per year, due to the excellent operating results in 2014 and 2015. Pig farms recorded negative returns of an average of -3% per year and were due to the operating loss in 2014 and 2015.

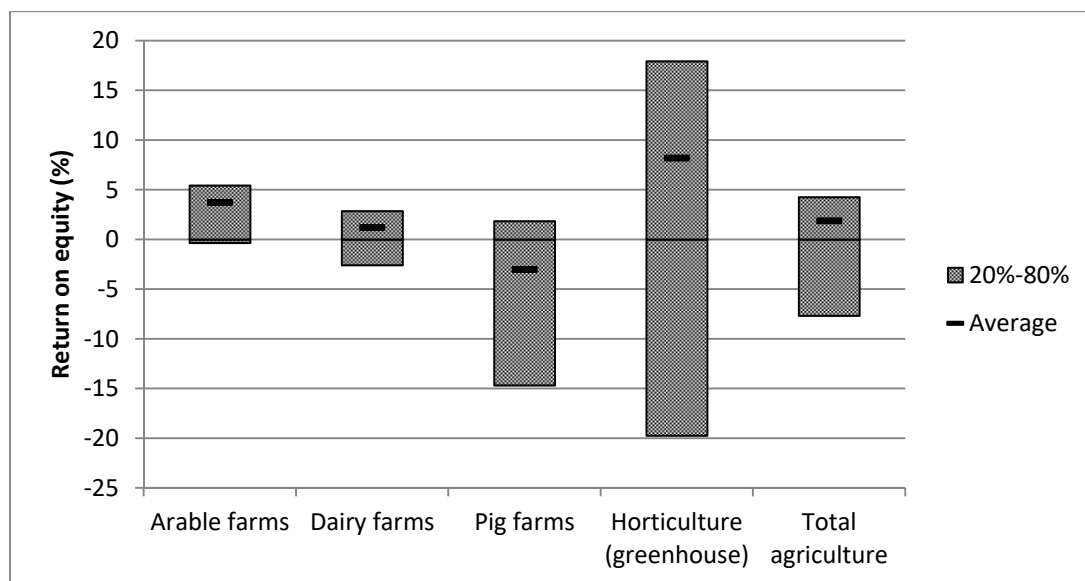


Figure 3 Movements in annual return on equity in agriculture (2011-2015)

Source: Farm Accountancy Data Network, Wageningen Economic Research.

The variations are not only considerable between sectors but also within each sector. Horticultural holdings recorded the widest variation in annual returns (Figure 3). While 20% of the holdings recorded a return of 17.9% or more, 20% recorded an average return of -19.8% or worse. The financial results in this sector differ between the vegetables, flower and ornamental subsectors. All subsectors are more influenced by market mechanisms giving cause to the wider variation than in for example the arable and dairy farming sector.

3.2 Sector level analysis

Mainstream financing

Four mainstream banks serve virtually the entire credit market in Dutch agriculture. By far the most important of these is Coöperatieve Rabobank U.A., which provides about 85% of the loan portfolio. ABN AMRO, ING and Triodos bank are also active in agriculture. Figure 4 lists the volume of the Rabobank agricultural financing from 2006 to 2015. The volume of credit provided to the sector increased substantially during this period, from 23 billion euro in 2006 to 30 billion euro in 2009. The greenhouse horticulture sector accounted for much of this growth, although the credit provided to the other sectors increased too. The volume of financing has decreased slightly in recent years to just under 30 billion euro in 2015. The total

volume of financing for the arable and dairy farming sectors has increased each year during the past decade. In horticulture credit increased in the period from 2006 to 2009 which was followed by a sharp decline from 2010 to 2015, when financing fell to 5.2 billion euro.

The average annual rate of default on bank loans are low in Dutch agriculture. In 2016 the number of filed bankruptcies amounted 45, against 150 in 2013. The decrease is related to the economic recovery in the agricultural sector (www.cbs.nl).

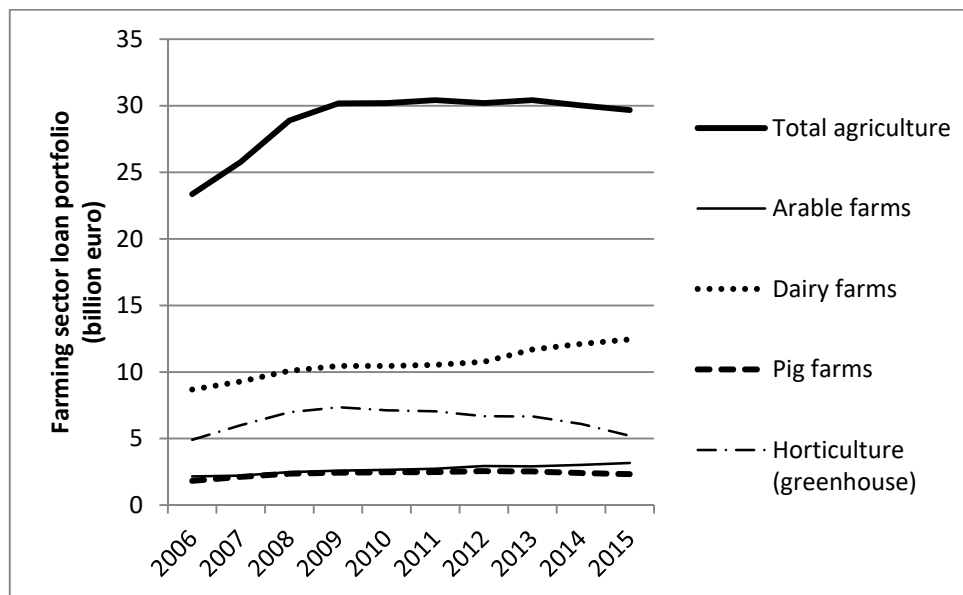


Figure 4 Volume of Rabobank agricultural financing in the Netherlands (2006-2015) (in billion euros)

Source: Rabobank Netherlands, editing Wageningen Economic Research.

Credit unions

Credit unions are cooperatives whose members are entrepreneurs in a specific sector or region. Experienced and solvent entrepreneurs make knowledge and funds available to provide credit to entrepreneurs with investment plans. In the Netherlands, credit unions provide relative small loans to a maximum of 250,000 euro (Braaksma and Smit, 2013). A coach is assigned to entrepreneurs for whom loans are approved (preferably from the credit applicant's sector). Credit unions have a long tradition in many countries (e.g. USA and UK) but are a fairly new concept in the Netherlands. Recently dozens of credit unions were established throughout the country. For example, small enterprises in the Veluwe region recently established credit union Veluwe, including some agricultural holdings. Also bakers have established a credit

union. Estimates indicate that within the near future the loan portfolio of credit unions could increase from a few million to tens of millions euro (Braaksma and Smit, 2013).

Credit unions could be an alternative option in agriculture. These could entail credit unions that focus on for example specific agricultural sectors, or alternatively, agricultural entrepreneurs focussing on investment opportunities in their region. The latter would tie in with the increasing interest in local food initiatives. The advantage of credit unions lies in their active involvement: entrepreneurs know each other and are in a better position to coach each other. Also their knowledge of the sector (peer to peer investors) enables them to make a good estimate of the investment risks and offer financing at lower interest rates than banks (Schilleman, 2013).

However, credit unions suffer from the disadvantage that they depend on entrepreneurs who believe in the concept and who are prepared to take the initiative. Especially in the start-up phase when their membership consists of a small group of entrepreneurs with limited funds, either from a specific sector or region, a low spread of investments is risky.

Private equity investment

In this form of financing investors become joint owners of the enterprise and share profits and losses. Investments made in start-up enterprises are referred to as venture capital or seed capital. Investments in mature companies are referred to as private equity investments, for example to finance farm expansion. Since the investor's investment in the enterprise increases its equity, it also simplifies obtaining a bank loan. In general the investment horizon is shorter than for regular bank loans, ranging from three up to five years (Treur, 2014).

Private equity investment funds finance enterprises with high annual returns on equity, of about ten percent. Yet, between 2011 and 2015, the average return on equity of the total agricultural and horticultural sector was approximately 2% (Figure 3). This is low in comparison with suppliers and processors in agricultural value chains (Backus et al., 2011) and non-agricultural sectors (Braaksma et al., 2012). The return on equity achieved in agriculture reveals that private equity or venture capital is an almost unrealistic option. Only some horticultural holdings achieving the best performance might meet the requirements. However, their options are still limited, as most investments in greenhouses have an investment cycle of 10 to 15 year, which is

not compatible with the private equity investment funds' exit strategy within five years.

Agricultural Loan Guarantee Fund

This instrument was introduced in the nineteen-fifties, when funds from the USA reconstruction aid scheme (i.e., Marshall Plan) were allocated to the establishment of the Agricultural Loan Guarantee Fund. The objective of this fund was to support farms with insufficient collateral so that these holdings could nevertheless obtain a bank loan. Although the fund in its form of a non-departmental public body has since been abolished, the scheme still exists in the form of an agricultural guarantee scheme (EU authorised state aid), which consists of three guarantee lines:

1. Basic – 80% guarantee for loans to a maximum of 600,000 euro;
2. Young farmers – 80% guarantee for loans to a maximum of 1,200,000 euro;
3. Plus - 80% guarantee for loans to a maximum of 2,500,000 euro for specific sustainability investments.

Figure 5 gives an insight into the guaranteed portfolio during the last two decades (note that the guaranteed period per loan is also 20 years). The amount of guarantees granted each year decreased gradually from 124 million euro in 1999 to approximately 28 million euro in 2014 and 2015. The majority of the granted guarantees were made available to the horticultural sector (Van der Meulen et al., 2015). The total amount guaranteed increased to almost 600 million euro in 2007 and decreased gradually during the subsequent years to 320 million euro in 2016. A recent policy impact assessment confirmed that the Agricultural Loan Guarantee Fund Obtaining guarantees still fills a need for young entrepreneurs and holdings with insufficient collateral for which it is intended (Van der Meulen et al., 2015).

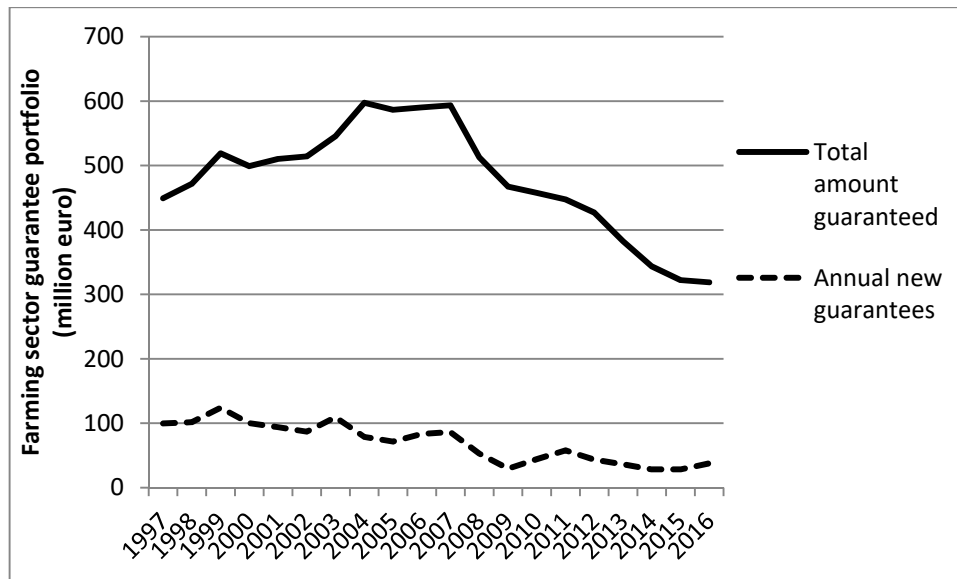


Figure 5 Amount (total and annual) of guarantees granted, 1997 – 2016 (million euros)

Source: RVO.

Crowdfunding

Crowdfunding refers to a form of financing in which usually a large number of individuals invests relatively small amounts each. Customers often provide finance in advance for future rewards. The principle is as follows: ‘Ask for 100 euro per participant in advance and then supply goods and services to a value of 120 euro’. Also crowdfunding can be of a form of gifts where an intangible reward is then an important incentive to make a financial contribution. Although entrepreneurs can make the necessary arrangements themselves, they can also rely and attract unknown investors via regulated crowdfunding platforms. Several platforms have been established recently in the Netherlands.

In the Netherlands, in general, crowdfunding is suitable for amounts of up to 500,000 euro (Braaksma and Smit, 2013). From 2012 onwards the crowdfunding portfolio almost doubled each year. In 2016, annual new loans amounted 170 million euro and the total crowdfunding portfolio comprised 410 million euro (Douw & Koren, 2017). The average credit amounts 80,000 euro per investment. Being more risky investments in nature the annual interest rate for crowd funding loans was approximately 8% (geldvoorelkaar.nl. 2016).

Crowdfunding also offers entrepreneurs in agriculture an opportunity to alternative lines of credit access. Experts estimate that 2% to 3% are related to

agricultural investments (personal communication crowdfunding platform director www.geldvoorelkaar.nl). Crowdfunding in agriculture often focusses on projects that appeal to and create links with potential participants. For example, an increasing number of local food initiatives are making use of crowdfunding (Vijn, 2013). Moreover, for reasons including recent food scandals consumers are increasingly deciding to make direct investments in the initiatives of local farmers. Crowdfunding financing reduces the size of required bank loans and will in turn increase the willingness of the bank to take part, as the bank will regard the public's interest in investment as a sign of confidence and also will serve as risk-bearing capital. The prospects for crowdfunding in agriculture are greatest for projects relating to sales in niche markets. These include multifunctional agriculture, organic agriculture and sub-segments focused on sustainability and animal welfare. The opportunities to obtain additional financing from crowdfunding will be more limited for larger, more anonymous investments for the purposes of farm expansion on conventional farms.

4. Discussion and concluding remarks

Agricultural and horticultural holdings seeking financing for their operations will continue to be largely dependent on equity and bank loans. From a theoretical perspective, the potentially more volatile prices in the coming years will affect the ratio between these two financing instruments, which will shift towards larger equity buffers (or more use of price contracts to limit farm income risks). At the same time it is expected that agricultural holdings will expand, so their need for credit will only increase. Recent developments in, and examples of, alternative sources of finance indicate that the diversity of financing products will likely increase in the future, whereby various forms of financing will be used in combination. Banks will then play more a coordinating role in which third parties will be involved too. Nevertheless the low return on equity achieved in agriculture reveals that private equity or venture capital is an almost unrealistic option.

Some farmers may be interested in alternative forms of financing for loans up to 250,000 euro (with or without additional bank loans, publically guaranteed or not). For example, the prospects for crowdfunding in agriculture are the greatest for projects relating to sales in niche markets. Customers, in their role as investors, may support initiatives that they find important and to which they can personally relate. This can also be of interest for banks since their funding capacity is lower now they

are required to retain more capital. Small loans are of less interest to banks, as the costs incurred in processing a loan are relatively high in comparison with the loan size. However, these initiatives are not sufficient in providing all the financing required for major farm investments in the coming years. Banks have to comply with stricter rules on finance, as laid down in Basel Accord III. As a consequence banks are becoming reluctant to fund loans with long maturities. In the future it is expected that borrowers will therefore have to repay bank loans in shorter periods.

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